

TABLE II.—MICROGENES OF *OPORABIA DILUTATA*.

	<i>O. dilutata dilutata.</i>	<i>O. dilutata christyi.</i>	<i>O. dilutata fraxinaria.</i>	
OVA.	Description ..	Glossy, ruby in colour, pitting feeble	A little smaller, * glossier	Slightly smaller
	Hatches	Varies	The same	Earlier
LARVÆ.	Description ..	Green, often purple-marked	The same	Always green
	Food	Oak, &c.	Birch, &c.	Nearly always ash
IMAGINES.	Emerges	Middle of October & onward	The same	Sept. 30th—Oct. 20th
	Markings, size, &c.	Ground very variable. Discal point large; angle of elbowed line rounded; sweeps near discal point	Ground whitish generally. Discal point small; angle of elbowed line almost as near a right-angle as in <i>autumnata</i>	Much smaller, ground bluish-grey, glossier. Practically no markings; parallel to <i>O. autumnata pinivorraria</i> . Is not, however, melanic
MALE GENITALIA.	Octavals	Far apart	Very near	As in <i>christyi</i>
	Labides	Head narrow	Head wide	Intermediate
	Valves	Spined externally	Shorter; spine more hooked	Much as in <i>dilutata dilutata</i> , but smaller

EXPLANATION OF PLATE OF GENITALIA.—I. *autumnata*; II. *dilutata*; III. hybrid *robsoni*; IV. hybrid *rungci*. A. Valve; B. Head of labides; C. Juxta and Cristæ; D. Bursa copulatrix with signa and Ductus seminalis; E. Upper signum; F. Lower signum.

NEW SPECIES OF HETEROCERA FROM FORMOSA.

By A. E. WILEMAN, F.E.S.

NOCTUIDÆ.

Micreremites bidentata, sp. n.

♂. Fore wings whitish, with a faint ochreous tinge; antemedial line black, sinuous, a black line from it to base of the costa; postmedial line black, sinuous, the sinus enclosing black discoidal spot bidentate; subterminal line pale, sinuous, inwardly bordered with black, area beyond the line suffused with blackish; terminal line black, lunulate; fringes grey, white at base. Hind wings whitish, fuscous

* Comparisons with *O. dilutata dilutata*.

tinged; discoidal lunule and two transverse lines beyond blackish, the first line bent inwards below cell, the second line from costa near apex to termen above tornus; terminal line blackish, lunulate; fringes white marked with grey towards the costa, greyer towards tornus. Under side whitish, suffused and clouded with fuscous, chiefly on the fore wings; discoidal spot black, placed on a blackish undulated line on fore wings; the hind wings have a black discoidal spot, a blackish line beyond, and a diffuse blackish band between the line and the termen.

Expanse 20 millim.

Collection number, 1031.

Two male specimens from Arizan (7500 ft.). One taken September 27th, 1906, the other August 8th, 1908.

Comes near *M. rasalis*, Warren.

Bertula albipunctata, sp. n.

♀. Head and thorax brown, abdomen brown mixed with greyish. Fore wings grey-brown, faintly reddish tinged; antemedial line blackish, slightly excurved; postmedial line blackish, outwardly oblique from costa to vein 6, thence wavy and inwardly oblique; a white dot in the cell, and a white lunule followed by three white dots at outer end of the cell; subterminal line whitish, most distinct on costal area, where it is incurved and edged with black; a short oblique black streak from apex. Hind wings pale brown, sprinkled with darker; a diffuse blackish band before the middle, terminal area clouded with blackish; subterminal line indicated by blackish edged-white points. Under side fuscous; all wings have a blackish discoidal spot and dusky line beyond.

Expanse, 30 millim.

Collection number, 1405.

A female specimen from Kanshirei, April 29th, 1908.

There is a male from Kanshirei (Wileman) in the British Museum. Except that the antennæ are fasciculated, this specimen agrees with the female now described. It was captured in November, 1908.

Adrapsa mediana, sp. n.

♂. Fore wings brown clouded with fuscous; discoidal lunule white, slender, preceded by a blackish transverse shade; postmedial line white, wavy, bent inwards at costal extremity, the outer border broadly dusted with white; subterminal line pale, sinuous, marked with white at costa and above the middle, area beyond dusted with white; terminal line black, lunular; fringes brown marked with white. Hind wings brown clouded with fuscous; medial line white, almost straight, followed by a band of white dusting; subterminal line white, wavy, indistinct; terminal line black, lunular, preceded by some white dusting; fringes as on fore wings. Under side of fore wings pale grey brown, finely sprinkled with darker; discoidal lunule whitish, preceded by a dark cloud and followed by an almost straight, dusky postmedial line; terminal area black-brown, with a patch of the ground colour below apex: of hind wings pale grey

brown, antemedial and medial lines black brown, interrupted; discoidal lunule whitish, edged with black-brown; subterminal line pale, wavy, broadly bordered inwardly with black-brown and followed by a dusky transverse line.

♀. Similar but rather darker, and there is less white powdering on the termen of the fore wings.

Expanse, 30 millim. ♂; 28 millim. ♀.

Collection number, 1431 ♂ and 1006 ♀.

One male specimen and two females from Kanshirei. One female was taken on June 16th, 1906, the male on April 9th, 1907, and the second female on September 1st, 1908.

Allied to *A. abluialis*, Walk., the type of the genus *Adrapsa*.

Nodaria terminalis, sp. n.

♂. Head and thorax pale brown, mixed with grey, abdomen paler; antennæ ciliated with paired bristles. Fore wings pale brown with greyish suffusion; terminal fourth dark brown; antemedial line dark brown, wavy, indented below costa; postmedial line dark brown, outwardly oblique from costa to vein 6, thence wavy and sinuous, preceded by a dark shade; subterminal line pale brown, dotted with black, almost straight; dots on termen black, fringes brown-grey mixed. Hind wings pale fuscous, suffused with darker, especially on basal area; discoidal spot and medial line blackish, the latter limiting the darker basal area; subterminal line blackish outwardly edged with whitish, sharply angled before the tornus; terminal line black, fringes brown paler at the base. Under side of fore wings fuscous brown; discoidal dot, postmedial and subterminal lines black, the subterminal rather indistinct: of hind wings pale brown sprinkled with black; discoidal mark and two lines beyond black, the inner line wavy and the outer line indented before tornus.

Expanse, 30 millim. ♂; 32 millim. ♀.

Collection number, 1435.

One example of each sex. The male from Punkio (4000 ft.), August 4th, 1908, and the female from Karapin (3000 ft.), August 1st, 1908.

Allied to *N. centralis*, Zuch.

Nodaria (?) *apicimacula*, sp. n.

♀. Head, thorax, and abdomen pale brown mixed with darker. Fore wings pale brown dusted with darker, chiefly on the basal and terminal areas; a black dot on the cell and two dots at end of the cell, the latter placed on a dusky transverse shade; antemedial line black, slender, deeply indented below costa, inwardly oblique towards dorsum; postmedial line black, slender and wavy; subterminal line pale, indistinct; towards costa interrupting a broad oblique black dash from apex, preceded by black marks which increase in size towards dorsum; terminal line black, lunular; fringes grey brown, paler at base and tips. Hind wings pale brown dusted with darker, chiefly on basal and terminal areas; two black discoidal dots set in a dusky transverse shade; postmedial line black, thicker than that

on the fore wings; subterminal line pale, inwardly marked with black; terminal line and fringes as on fore wings. Under side pale brown, with most of the black markings of upper side reproduced, but these only faintly on the fore wings.

Expanse, 28 millim.

Collection number, 1022.

Two female specimens from Kanshirei, one taken May 2nd, 1907, and the other April 29th, 1908.

There is a rather rubbed male from Formosa (Wileman) in the British Museum. In this specimen the markings of the fore wings are only faintly traceable.

Nodaria unipuncta, sp. n.

♂. Head and thorax pale ochreous brown, abdomen paler. Fore wings pale ochreous brown, a black spot at end of the cell: antemedial and postmedial lines dark brown, the former wavy and the latter slightly excurved, both indistinct; traces of a dusky subterminal line and minute black dots on the termen. Hind wings whity-brown, suffused with darker brown. Under side whity-brown, fore wings suffused with darker; all the wings have a dusky discoidal dot and a transverse line beyond.

Expanse, 35-38 millim.

Collection number, 1426.

Two male specimens from Kanshirei, April 29th, 1908.

There is a female of this species from Kanshirei (Wileman) in the British Museum. It is of a deeper ground colour, and the subterminal line is dark brown outwardly edged with paler, and nearly straight. This specimen was taken in June, 1908.

Nodaria interrupta, sp. n.

♀. Fore wings pale ochreous brown, clouded and suffused with darker brown, except on the basal and three-fourths of the costal areas; antemedial line black, sinuous, bisecting two white spots; postmedial line black, outwardly oblique from costa to a white mark at end of the cell, thence inwardly oblique and wavy to the dorsum; discoidal lunule black, placed on the inner edge of the white mark; subterminal line white, sinuous and interrupted, outwardly edged with black towards the costa; terminal dots black; fringes grey-brown marked with paler. Hind wings whitish with blackish discoidal lunule and two transverse brownish bands beyond, neither band extending to the costa, the outer one edged outwardly with white and angled above dorsum; subterminal line dark brown, fringes whitish fairly marked with grey brown. Under side of fore wings pale ochreous brown sprinkled with darker brown, and suffused with fuscous on the disc; discoidal lunule and postmedial line black, the latter only distinct on the costal area; white markings on costal half as on upper side; hind wings white finely freckled with brown, discoidal lunule black; medial and postmedial lines blackish, serrate,

commencing in black spots on the costa, and marked with black opposite the cell.

Expanse, 25 millim.

Collection number, 1019e.

A female specimen from Arizan (7500 ft.), September 10th, 1906.

Near *N. duplicinota*, Hampson.

Nodaria rivulosa, sp. n.

♀. Fore wings pale brown, heavily powdered with darker brown; antemedial line black, wavy; postmedial line black, the upper part outwardly oblique, united with the black discoidal mark, lower part wavy and inwardly oblique; subterminal line whitish, highly sinuous, shaded inwardly with black; terminal line black-brown, fringes whitish marked with grey-brown. Hind wings pale fuscous, suffused with darker; traces of two dusky transverse lines, the outer line angled towards tornus and outwardly edged with white; terminal line black-brown, fringes whitish, marked with grey-brown. Under side of fore wings dark fuscous; postmedial line black, excurved; an almost round blackish spot, followed by some whitish marks, below costa indicate the subterminal line: hind wings whitish sparingly sprinkled with brown; discoidal spot black, two brownish transverse lines beyond.

Expanse, 22 millim.

Collection number, 1019c.

A female specimen from Arizan (7500 ft.), August 23rd, 1908.

Allied to *N. simplex*, Hampson.

Bomolocha taiwana, sp. n.

♂. Head and thorax dark brown, paler mixed; abdomen pale brown. Fore wings pale brown, clouded with darker on dorsal and terminal areas; postmedial line white, oblique, sinuous; a white oblique line from the base near costa to dorsal extremity of the postmedial line; space enclosed by the white lines dark chocolate brown; subterminal line represented by dark dots outwardly edged with white; terminal line black, fringes dark brown, almost black. Hind wings dark fuscous. Under side pale brown freckled with darker; a dusky postmedial line on all the wings, and a black discoidal dot on the hind wings.

Expanse, 36 millim.

Collection number, 1458.

A male specimen from Kanshirei, April 27th, 1908.

Allied to *B. mandarina*, Zuch.

Orthozona curvilineata, sp. n.

♂. Head and thorax dark grey brown, abdomen paler; antennæ serrate-ciliate; palpi recurved, densely scaled, third joint half-length of second. Fore wings dark grey brown; antemedial dark brown; postmedial line dark brown, preceded by a slender, very wavy, brown line; postmedial and antemedial lines are parallel, broad, slightly

curved, the former from apex of the wing; reniform stigma pale, indistinct, a dusky dot at lower end; a black point in the cell, and some black lunules on the termen. Hind wings grey-brown, paler on basal two-thirds; antemedial line blackish, not extended to costa; postmedial line dark brown, outwardly edged with whitish, not extended to costa. Under side greyish, freckled with brown and clouded with darker on the outer area of fore wings; a fringe of long pale hairs from vein 12; black discoidal dot on hind wings and traces of a pale-edged dusky postmedial line on all the wings.

♀. Palpi porrect, third joint upturned, about one-third length of second, which is rather hairy above. Similar in colour and marking to the male, but with a slender, wavy, brown subbasal line on the fore wings.

Expanse, 30 millim. ♂; 40 millim. ♀.

Collection number, 1762.

One example of each sex from Rantaizan, the male taken May 10th, 1909, and the female May 9th, 1909. The palpi of the sexes differ in structure, but as regards this character the female agrees exactly with female *O. quadrilineata*, Moore, upon which the genus *Orthozona*, Hampson, was founded (Fauna Brit. Ind. Moths, vol. iii. p. 94).

Orthozona bilineata, sp. n.

♂. Fore wings pale greyish brown, antemedial and postmedial lines rusty brown, oblique, the postmedial broad commencing on the costa just before apex; reniform stigma pale ochreous, two brown dots in it; a black dot in cell; terminal line brown, interrupted at ends of the veins. Hind wings pale greyish brown with two rusty brown lines, apparently continuations of those on the fore wings; terminal line dark brown. Under side pale greyish, fore wings suffused with dusky on the disc, hind wings with a dusky discoidal dot and traces of two wavy transverse lines.

Expanse, 33 millim.

Collection number, 1761.

A male specimen from Rantaizan, May 11th, 1909.

Very similar to *O. curvilineata* but the lines of fore wings are oblique, the postmedial is from before apex instead of from the apex itself, and there are no hairs from vein 12 on under side. Antennæ and palpi as in *O. curvilineata* male.

Anepa contigua, sp. n.

♂. Head and thorax pale brown, crest on thorax rather darker; abdomen paler brown with minute black crests; antennæ fasciculated. Fore wings pale brown, freckled with darker; antemedial line dusky, indistinct, a white dot on it in the cell; postmedial line dusky, slightly sinuous, indented above dorsum; subterminal line indicated by a series of black dots parallel with termen. Hind wings whitish brown, suffused with fuscous; traces of a dusky discoidal dot. Under side pale brown, all the wings have a black discoidal dot and dusky postmedial line.

♀. Similar but without dark freckling on the fore wings, the postmedial line is more oblique and less sinuous.

Expanse, 32 millim. ♂ ; 35 millim ♀ .

Collections numbers, 1009 and 1876.

One example of each sex from Arizan (7500 ft.) taken in September, 1906.

Another female specimen captured at Arizan in August, 1908, appears to be referable to this species, but it is rather worn.

Closely allied to *A. oxydata*, Hampson.*

Heterogramma nigrisigna, sp. n.

♀. Head and thorax pale grey brown, dusted with rather darker brown; abdomen paler. Fore wings pale grey brown, dusted with darker; antemedial line black, wavy; postmedial line black, wavy, excurved round cell, indented above dorsum; discoidal mark black, lunular; subterminal line pale ochreous brown, edged internally by an interrupted black line, followed on the costa by a quadrate black spot, terminating on dorsum near tornus. Hind wings pale brown, suffused with darker on tornal area; medial line blackish, curved; postmedial line pale ochreous, angled and internally black edged towards dorsum. Fringes of all the wings pale brown inclining to ochreous towards base, preceded by a blackish line. Under side pale brown, suffused with blackish on the fore wings, whitish powdered with brown on the hind wings; all the wings have a black discoidal mark and the transverse lines of upper side are traceable.

Expanse, 29 millim.

Collection number, 1019.

One female specimen from Kanshirei, April 17th, 1906.

Near *H. discosticta*, Hampson.

NOTES AND OBSERVATIONS.

THE Annual Verrall Supper at the Holborn Restaurant was no less a success this year than is usual. The record was reached in 1914 with a total of just over the century; but on January 19th, 1915, this was run very close by the "ninety-and-nine" who sat down to an ample supper, after much enjoyable chat upon the entomological exploits of the past year. All, or nearly all, the familiar faces were present; the main exceptions were the brothers Waterhouse, Mr. E. A. Newbery who had accepted, and the very few who have passed away in the interim, such as Rev. E. N. Bloomfield. These were, however, replaced by many new faces, prominent among which were Prof. J. W. Carr, of Nottingham, and Mr. Bruce Cunnings, of the British Museum. Several of those present were in khaki, and our Allies were represented by at least one Japanese gentleman, as the chairman remarked in a most particularly happy speech, concluded by those present drinking in silence to the memory of Mr. Verrall.—C. M.

* Journ. Bomb. Soc. xi. p. 707 (1898).